

Promoting L2 Scholars' English Academic Writing Development through Massive Open Online Courses

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ABSTRACT

This paper investigates the feasibility and means of facilitating Taiwanese L2 educational scholars' English Academic Writing Development (EAWD) via massive open online courses (MOOCs). Through literature review and curriculum analysis, the study has found some limitations on Taiwanese L2 educational scholars' EAWD in conventional schooling and identified the feasibility of MOOCs as a solution. This research provides several means to empower L2 scholars' EAWD by MOOCs: build English basic writing ability, develop English academic writing literacy, improve English presentation and communication skills, strengthen the foundation of English academic writing, and support L2 scholars' EAWD lifelong. After evaluating the proposed means, the researcher infers some implications for educational researchers, L2 scholars, and policymakers: MOOCs can be an efficient way to improve L2 scholars' EAWD, L2 scholars should notice and take advantage of MOOCs, policymakers ought to provide supporting measures, and L2 scholars need to form a learning community to empower their EAWD lifelong.

Keywords: MOOCs, L2 scholar, English academic writing development, learning community, open educational resources (OER)

I. Introduction

Education scholars for whom English is not their first language (L2 scholars) and who got their doctoral degree in Taiwan, may not have had sufficient English academic writing training in their doctoral program (table 1), but massive open online courses (MOOCs) as open educational resources (OER) and the latest form of online learning could offer alternative opportunities for L2 scholars to promote their English academic writing development (EAWD) (Gilliland, Oyama, & Stacey, 2018). An L2 scholar is any scholar who learns a second language, yet this study only focuses on English as second language learners. Since many societies have abundant access to information and communication technologies (ICT) (Karpati, 2011), making good use of online OERs could help the public to learn (McGreal, 2017; Thomas & Brown, 2011). MOOCs may act as a feasible means for L2 scholars' EAWD because MOOCs come from top-tier universities, are low cost or free, and have hundreds of English-writing-related courses, without spatial-temporal limitation (Castaño-Muñoz, Duart, & Sancho-Vinuesa, 2014; Chang, Hung, & Lin, 2015; Crawford, 2013; Hew & Cheung, 2014).

A. Why English academic writing is important

EAWD occupies a significant role for educational scholars because primary leading international academic educational journals are published in English; writing, presenting, and publishing papers in English allows L2 scholars to share ideas and practices in global academia. For example, the majority of faculties in Taiwan's medical doctoral programs regard English academic writing as a critical competency for doctoral students of medicine (Lee, 2012). Moreover, writing is a social constructive process (Beaufort, 2000); the feedback from an international audience and peers will increase the quality of research and inspire a further engagement.

Scholars are writers who share their knowledge, experience, and beliefs to readers (Emerson, 2017). Thus, publishing articles in reputable international journals and participating in international academia will broaden scholars' vision, help them connect with the latest educational trends, extend the influence of local research results, enhance mutual understanding globally, improve international relations, increase global collaboration, and advance scholars' careers.

B. Why academic writing is a challenge for L2 scholars

Taiwanese L2 education scholars encounter the challenge of meeting the English writing threshold necessary to participate in international academia. Every Taiwanese L2 scholar has had some general academic writing training to finish their Mandarin dissertation, but only a few L2 scholars have been properly trained to write their studies in English. Lee (2012) has found a lack of English academic writing training in Taiwanese medical doctoral programs;

the author has also experienced the lack of English academic writing training in Taiwan's educational doctoral program and observed the lack of English writing competency among peer faculty members who got their PhDs in Taiwan. Moreover, the majority of L2 scholars lack opportunities to get feedback on their writing from others in their own countries (Gilliland et al., 2018). Although writing competency is a crucial ability for high-level participation in an institution (Bazerman, 2013), most Taiwanese L2 scholars may need to struggle for years alone.

EAWD is a common challenge for Taiwanese L2 scholars but is rarely discussed. Writing studies have been published on a wide range of topics, such as emergence of writing (Tolchinsky, 2006), Kindergarten (Larson, 1999), primary school (Boscolo, 2008), high school (Graham & Perin, 2007; Olsen, VanDerHeide, Goff, & Dunn, 2018), higher education (Haswell, 2008), workplace (Gunnarsson, 1997), professional writing (Wickman, 2010), and a longitudinal study on writing (Rogers, 2010). However, only a few studies on L2 scholars' EAWD have been published. These include a case from Turkey (Buckingham, 2008) and a case from a writing MOOC (Gilliland et al., 2018). The purpose of this study is to explore Taiwanese L2 scholars' EAWD problems and investigates the corresponding solutions that will bridge the gap in this area, bring Taiwanese experience to the international academic study of writing development, provide some practical strategies for L2 scholars, and become a pioneer study in Taiwanese L2 scholar's EAWD research.

C. MOOCs as an innovative attempt to solve the challenge

Writing studies involve multiple disciplines, such as cognitive psychology, neuroscience, linguistics, educational psychology, and neurophysics (Berninger & Richards, 2012); ICT has had a huge influence on education, affecting teaching, learning, and collaboration (Wastiau et al., 2013). Online learning has become a current way of learning, formal and informal. Online learning is included as part of formal education, while informal online learning has not been recognized by schools or universities. The majority of courses in MOOC platforms are informal courses, but a few of them are formal courses, such as the University of Illinois at Urbana-Champaign's Master of Business Administration (iMBA) degree courses in Coursera. MOOCs act as the latest online learning approach and contain thousands of courses from top-tier universities without limitations of sex, age, nationality, time, location, and finances. They have become a popular way for learners to acquire new knowledge and skills to advance their careers (Wang, Paquette, & Baker, 2014). Compared to conventional online platforms, a single MOOC learning platform, such as Coursera, accumulates hundreds of internationally reputable institutions of higher learning, provides thousands of courses for all without entrance requirements, is free or charges only a low tuition fee, and is becoming a good choice for L2 scholars' EAWD. Therefore, exploring the topic of empowering Taiwanese L2 educational scholars' EAWD through MOOCs is relevant and important.

D. Research goals and methods

To verify and implement this proposal, the researcher raised five research goals: exploring the problems of Taiwanese L2 educational scholars' EAWD, evaluating the feasibility of facilitating L2 scholars' EAWD with MOOCs, finding the relevant means to improve L2 scholars' EAWD via MOOCs, evaluating suggested means, and inferring some implications for L2 scholars, researchers, and policy makers. To fulfill these research goals, several research methods were applied.

First, the study conducted a literature review on the concepts of writing development, EAWD, and MOOCs to clarify research-related concepts. Second, the research analyzed thirteen doctoral programs' curricula in departments of education in Taiwan to figure out students' EAWD problems. Through filtering Taiwan's doctoral programs with the titles of department of education or institute of education, thirteen departments and institutes (located at the north, west, south, and east of Taiwan) were selected (Ministry of Education, 2018). The study analyzed these doctoral programs' curriculum regulations and courses offered to students between the 2015 and 2017 school years through information found on individual universities' course schedule websites to evaluate the opportunity of L2 scholars' EAWD through formal schooling. Third, the researcher analyzed the syllabi and course introductions of writing-related courses from MOOC platforms to evaluate the feasibility and the manner in which MOOCs could be used to facilitate L2 scholars' EAWD. These analyzed courses came from a keyword search ("writing" and "composition") through www.mooc-list.com (a popular MOOC search engine) on June 6, 2018, and there were 301 courses found and 115 courses screened out that fit the criteria of L2 scholars' EAWD in this research. These courses are built on individual MOOC platforms including Coursera, edX, Udacity, Canvas, Saylor, and FutureLearn. Since [mooc-list](http://www.mooc-list.com) does not include Taiwan's MOOC platforms, the researcher also explored the relevant courses from Taiwan's MOOC platforms ([ewant](http://www.ewant.com), [ShareCourse](http://www.sharecourse.com), and [TaiwanLife](http://www.taiwanlife.com)) and two courses were included. Fourth, through critical evaluation of proposed L2 scholars' EAWD approaches, some suggestions are provided. Fifth, after synthesizing all the arguments including the problems of Taiwanese L2 education scholars' EAWD, MOOCs' feasibility for L2 scholars, the relevant means for L2 scholars' EAWD by MOOCs, and the evaluation of means, this study will infer some implications for L2 scholars, researchers, and policy makers.

Since a professionally designed diagram will help people to form a mental model of a complex system (Schrivier, 2012), the study's research framework is outlined in figure 1.

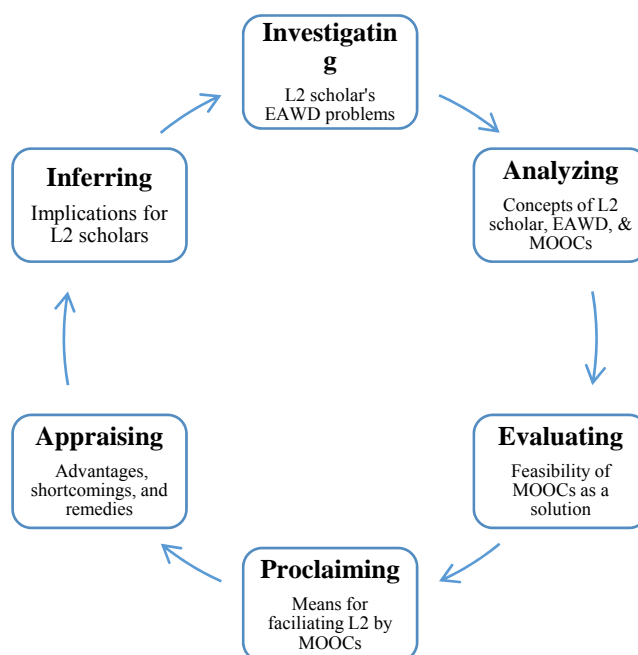


Figure 1. A research framework for facilitating L2 scholars' English academic writing development (EAWD) By MOOCs.

II. Concepts analysis

A. L2 scholars

L2 scholars learn and use the second language to engage in international academic activities, such as writing journal articles, presenting conference papers, and communicating with international peers. The population of L2 scholars worldwide is huge, with diverse second language preferences and learning conditions (Gilliland et al., 2018). In Taiwan, most L2 educational scholars use English as their second language for several reasons. First, English is a *lingua franca* (Jenkins, 2018) and is widely used in educational academia. Second, most Taiwanese overseas educational scholars get their degree from English-speaking countries. For example, in 2017, there were 21,127 Taiwanese international students in the United States, 3,920 in the United Kingdom, 3,202 in Canada, and 16,573 in Australia; whereas there were 9,642 Taiwanese international students in Japan, 1,755 in Germany, 1,004 in France, 300 in Spain, and 172 in Russia (Department of International and Cross-strait Education, 2017). Third, American educational philosopher John Dewey (1859-1952) has had a long-time influence on the educational ideas and practices of Taiwan (Jin & Dan, 2004). Taiwan and the United States have similar educational systems: K-12 and college or university.

Although this research focuses on educational scholars only, even in a single educational discipline there exist many sub disciplines. There are 2,713 doctoral students and 1,432 faculty members in the discipline of education including departments of education,

departments of special education, departments of physical education, etc. (Ministry of Education, 2018) To have a concise argument, L2 educational scholars in this study are defined as scholars who live in Taiwan, use Mandarin as their first academic language, get their doctoral degree from departments of education or institutes of education in Taiwan, and intend to learn and to use English as their second language to participate in international academic activities and publish journal articles.

B. English academic writing literacy

English academic writing literacy is an important aspect of school education as well as scholars' professional development. Writing, however, should be understood in multiple aspects: in real-life settings, internal structure, external relations, self-identity, and group uniformity (Gunnarsson, 1997). This study combines these inner and outer factors and analyzes them into four dimensions: writing standards, academic writing genres, the writer's role, and writing philosophy.

First, writing standards: Writing standards in *Common Core* provide K-12 students a guideline of basic writing literacy including academic writing. *The College and Career Readiness Anchor Standards for Writing in English Language Arts Standards* lists four basic requirements as academic writing literacy. 1. Understanding text types and purposes: These abilities include writing arguments to support claims, writing explanatory texts to examine complex ideas, and writing narratives to develop real or imagined experiences. 2. Learning production and distribution of writing: These include producing clear and coherent writing, developing and strengthening writing, and using technology to publish, interact, and collaborate with others. 3. Building and presenting knowledge through research: These include conducting research projects, gathering relevant information from multiple sources while avoiding plagiarism, and drawing evidence from literary to support research. 4. Planning a range of writing: learning to write routinely for a range of tasks, purposes, and audiences (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010). These writing standards could be a competence framework for L2 scholars' basic English academic writing, because these standards focus on basic requirements of academic writing, and most Taiwanese L2 scholars lack this foundation.

Second, academic writing genres: In the professional field, writing has specific genres. For example, doctoral students learn to classify their work in a unique way in which Schryer, Lingard, Spafford, and Garwood (2003) have revealed that learning how to use a genre means being "genred" (p. 91), a state in which people see this world from the perspectives of that particular genre's characteristic structure and situational styles of expression. This means that L2 scholars should acquire the special genre to suit their discipline. This includes the specific research theme, explicit research methodologies, and distinct writing format and style. However, to master an academic genre is a challenging mission for learners, as Shah, Shah, and Pietrobon (2009) have described that the academic writing criteria-sound subject matter,

clarity, style, structure, precision, and accuracy-scare away many researchers and make research writing a daunting task.

Third, the writer's role: Writing is not only learning the skills and genre but also identifying the writer's role in the social context. "As they acquire the genres of their fields, they also acquire the forms of agency associated with that field, but the acquisition of that agency has ideological consequences which could require critical examination" (Schryer, Lingard, Spafford, & Garwood, 2003, p. 91). The role of L2 scholars as international scholars should be examined reflectively during their EAWD process, although it is not an easy job as Blakeslee (1997) said: "In physics, advanced graduate students are often asked by their advisers to write initial drafts of journal articles. Their engagement in such activities and their interactions with their advisers during these tasks serve as important, but as yet little understood, occasions for students' professional and rhetorical development" (p. 128). L2 scholars need personal guidance and self-examination to understand their roles in English academic writing, and their doctoral advisers' guidance becomes an important aspect.

Fourth, writing philosophy: Fulkerson (1979) provided four philosophies for composition, which include formalist, expressionist, mimetic, and rhetorical. First, formalist: Judging a writing is based on its form, syntax, spelling, grammar, etc.; second, expressionist: Writing activities need to maximize learners' self-discovery; third, mimetic: Writing provides a clear connection between good writing and good thinking; and fourth, rhetorical: Good writing aims to achieve the desired effects on the target audience.

Fulkerson's writing philosophy gives a concise summary for English academic writing competency: basic writing skills (grammar and syntax), writing style and genre, relevant academic argument, and self-expression with a sound reason to convince the audience.

In short, L2 scholars could improve their English academic writing literacy through enhancing their basic writing skills (understanding grammar, syntax, text type, and text purpose; planning, producing, and distributing writing; building knowledge through research; and expressing themselves to convince their audience with relevant academic arguments), cultivating a writing genre appropriate to their discipline, and recognizing the role of being an international scholar.

C. English academic writing development

Writing development is a lifelong pursuit (Bazerman, 2013), from the emergence of writing (Tolchinsky, 2006), kindergarten writing (Larson, 1999), primary school writing (Boscolo, 2008), high school writing (Smagorinsky, 1997), university writing (Reiff & Bawarshi, 2011), workplace writing (Schryer et al., 2003), to professional academic writing (Blakeslee, 1997). Writing, as well as learning, is also situational (Dias, Freedman, Medway, & Pare, 1999), and situated learning theory explains how writing is supported and transacted between novice and experienced practitioner in academic domains (Blakeslee, 1997). Beaufort (2000) has suggested that novices in the workplace should be trained in

context-specific knowledge.

Academic writing development needs to build scholars' writing literacy relevant to the academic situation, taking into account the academic writing style, genre, and social context to fit the specific discipline. A broad expectation for academic writing is critical and analytic thinking (Bazerman, 2013) that expands on the basic academic writing skills in *K-12 College and Career Readiness Anchor Standards for Writing in Common Core Standards*, which emphasize clear expression rather than in-depth reflection.

Furthermore, "The twenty-first century is characterized by its rapid technological advancement. Our lifestyles and means of interacting with people have changed significantly as digital technologies turn ubiquitous in our life" (Chu, Reynolds, Tavares, Notari, & Lee, 2017, p. 17). Under the innovation of ICT, learning has gradually transferred from paper-based page to screen page (Kress, 2003); traditional writing media have given way to new media such as the World Wide Web (Bolter & Grusin, 2000). L2 scholars' EAWD should include facilitation from information related technologies, which have had a huge influence on the process and consequence of teaching and learning.

Weinreich, Labow, and Herzog (1968) concluded, "Linguistic and social factors are closely interrelated in the development of language change" (p. 188). L2 scholars' language change and EAWD will closely relate to grammar, style, genre, the writer's role, writing philosophy, and other social factors where technology is closely connected with learning. Thus, facilitating L2 scholars' lifelong EAWD, technology will play a significant role. Online learning is a good example where MOOCs stand for the latest trend.

D. MOOCs

MOOCs are the newest online learning platform (Porter, 2015) where thousands of courses from reputable universities worldwide offer courses online for any learners who wish to get a degree (Hollands & Tirthali, 2014), a certificate (Chuang & Ho, 2016), AP enrichment (Advanced Placement (AP): A college or university provides college-level courses to high school students, and universities or colleges may grant placement and course credit to students who get high scores in these courses), professional training (Radford, Coningham, & Horn, 2015), career advancement (Wang et al., 2014), or pursue lifelong learning (Huang, 2015). There are five areas that will be examined.

First, ICT and online learning: The advance of ICT becomes the most important facilitator for MOOCs because high-speed networks can support MOOCs, and Internet users can access online courses anywhere and anytime (Chang et al., 2015). Accessing online resources and engaging in online activities have become a daily activity for most people. In lifelong-learning societies, people want to have more access to education, but are limited by entrance requirements, budget, location, and time. These obstacles may have a negative impact on their desire to learn. MOOCs' characteristic of being free or low cost without spatial-temporal limitations may reignite their motivation.

Second, the launch of MOOCs: MOOCs grew from experimental online university courses (Thrun, 2012). George Siemens and Stephen Downs opened their “Connectivism and Connective Knowledge” course free for all and attracted about 2,200 participants to register in 2008 (Camilleri, Busuttill, & Montebello, 2014). Stanford’s Sebastian Thrun and Google’s Peter Norvig opened a free online course, Artificial Intelligence, which attracted a record high number of online learners in a single course—more than 160,000 enrollments in 2011 (Davidson, 2013). Thrun saw the enormous potential of massive online learning and created Udacity, the first MOOC platform in 2012.

Third, MOOCs worldwide: The trend of MOOCs was initiated in North America, with platforms such as Coursera from Stanford and edX from MIT and Harvard; they have spread worldwide in a short time: FutureLearn from the UK, Open2Study from Austria, K-MOOC from South Korea, and ewant, OpenEdu, TaiwanLife, and ShareCourse from Taiwan. MOOCs have become a worldwide trend for learning online.

Fourth, MOOCs’ characteristics: Why have MOOCs become so popular and surpassed other traditional online learning courses or platforms? The characteristics of MOOCs provide a clue. First, they are low cost or free for all (Chang et al., 2015): Most of the traditional online courses charge learners a tutor fee or are open for a specific population only, but most MOOCs are open for all and no payment is required unless an official certificate of completion is desired. Second, massive numbers of learners (Chuang & Ho, 2016): Traditional online courses do not have as many learners as MOOCs do, since the learning population in a single MOOC platform can be millions, and the average number of participants per course is 7,902 in the earlier case of HarvardX and MITx (Chuang & Ho, 2016). Third, a massive selection of courses (Hew & Cheung, 2014): Traditional online platforms usually have quite a limited course selection, whereas MOOCs have accumulated thousands of courses from hundreds of internationally reputable universities, institutions, and organizations. Fourth, abundant learning materials and flexible learning style (Hood, Littlejohn, & Milligan, 2015): MOOCs provide reading e-texts, lecture videos, peer essay assessment, online quizzes, discussion forums, course social media, open educational resource (OER) links, and online Q&A. Learners do not need anything to learn in the MOOCs except a device that can access the internet. Fifth, MOOC learners can learn through their preferred approaches: Participants can do the quiz before reading the text; learners can fast-forward, pause, or rewind lecture videos; and MOOC users can have discussions with learners worldwide in forums anytime and anywhere since the huge learning population exists in diverse time zones.

Although conventional online learning approaches might have parts of these above-mentioned characteristics, MOOCs have them all and might be a viable candidate for L2 scholars’ EAWD. The feasibility is estimated below.

III. Feasibility of facilitating L2 scholars' EAWD by MOOCs

The feasibility was evaluated by examining the potential of MOOCs to address the limitations of conventional L2 scholars' EAWD.

A. L2 scholars' EAWD in Taiwan

To understand the problems of conventional L2 scholars' EAWD, the *status quo* should be investigated. Learning writing typically occurs during schooling (Bazerman, 2013); school curricula must be examined first to understand what L2 scholars have learned. Moreover, the learning context must be considered (Gašević, Dawson, Rogers, & Gašević, 2016) where the writing process includes social setting as well as an individual aspect (Gunnarsson, 1997). Thus, L2 scholars' EAWD connects to formal learning-schooling (writing courses, doctoral advisors' individual guidance, and courses taught in English) and informal learning-workplace training and self-learning.

First, formal learning-schooling (writing courses): Taiwanese students learn English from elementary school till university but lack situations to use English. School English teaching focuses on preparing for examinations instead of practical English communication ability (Pan, Brown, & Tsay, 2013), so most of the students' English speaking and writing abilities are limited. The doctoral program will be the last formal learning opportunity to improve L2 scholars' EAWD.

There are 616 students and 170 faculty members in these 13 doctoral programs (table 1). Doctoral students in these programs usually need about 28 to 39 semester credit hours to fulfill the basic requirement for a doctoral degree, but only a total of four courses in English academic writing are offered in these 13 doctoral programs. The average English academic writing courses in 13 doctoral programs is about 0.31 (4/13) courses or 0.62 (8/13) credit hours per doctoral program. Although courses are listed in the program, this does not guarantee that students will have a chance to enroll, because not all English academic writing courses are open for students. There were only three English academic writing courses (5 credit hours) opened to students during the 2015, 2016, and 2017 schools year in total at these 13 universities. Thus, the chance to have English academic writing training in the doctoral programs is rare.

Table 1

The Opportunity for L2 Scholars' English Academic Writing Development in Their Doctoral Programs

Department anonymous code	Student number	Faculty Number	TGC	D	EAW, N(H)	EAWO, N(H)	CTE, N(EH/TH = P)
U1	103	15	32	6	0	0	5(11/600 = 1.83%)
U2	72	17*	36	0	0	0	0
U3	95	16*	33	0	0	0	6(14/200 = 7.00%)
U4	20	10	36	0	1(1)	2(2)	8(24/216 = 11.11%)
U5	54	14	32	0	0	0	0
U6	25	7	39	6	0	0	0
U7	61	16	30	6	0	0	19(57/382 = 14.92%)
U8	57	8	28	0	1(2)	0	0
U9	119	22	33	0	0	0	0
U10	32	8	37	12	1(3)	1(3)	0
U11	49	7	34	0	0	0	9(27/216 = 12.50%)
U12	89	19	36	6	1(2)	0	0
U13	15	11	30	0	0	0	0
Total	616	170	436	36	4(8)	3(5)	47(133/1614 = 0.08)
Average	47.38	13.08	33.54	2.77	0.31(0.62)	0.23(0.38)	3.62(10.23/124.15 = 0.08)

Note. U1 to U13 are 13 departments of education or institutes of education anonymous codes. TGC means Total graduated credits required; D means dissertation study required credits; EAW, N(H) means English academic writing courses on curriculum, Course numbers (Total hours); EAWO, N(H) means English academic writing courses opened for students, Course numbers (Total hours); CTE, N(EH/TH = P) means Courses taught in English, Total numbers (Total hours of CTE/Total hours of all courses = Percentage of courses taught in English). The data of student number and faculty number come from Ministry of Education (2018). The data of TGC, D, and EAW come from individual university websites respectively in 2017 academic year. The data of EAWO and CTE are the total numbers in three years (2015, 2016, and 2017 academic year) and come from individual university online course inquire systems respectively during March to May 2018.

Second, formal learning-doctoral advisor's individual guidance: Another possible opportunity for formal training in English academic writing comes from the doctoral advisor's individual guidance, but it is diverse at these 13 universities. The highest formal credit hours for doctoral dissertation guidance is 12 hours, the lowest is 0, and the average is about 2.77 hours (table 1). This guidance usually focuses on Mandarin dissertation writing, and the English academic writing might be taught by a few advisors who have sufficient experience in publishing English articles. Most doctoral students have had very little English academic writing training from their doctoral advisors because most advisors use Chinese to write, to teach, and to engage in academic activities. Thus, they transmit a similar model to their doctoral students. Moreover, the requirement of a Mandarin dissertation has already become a heavy burden in which students have little time and appetite to improve their English academic writing. Especially because the majority of doctoral students are unprepared in English academic writing and need writing training to improve from basic to advanced ability, but there is only a limited time in the doctoral program to finish the essential work-a-Mandarin dissertation. However, limited by the length of this study, the details of L2 scholars' EAWD via advisor are unexplored, but it is a topic well worth further study.

Third, formal learning-courses taught in English: Courses taught in English may improve L2 scholars' EAWD, but the chance is still low since there were only five doctoral programs that offered courses taught in English in the 2015, 2016, and 2017 school years. The highest

percentage of courses taught in English was 14.92%, the lowest was 0, and the average was 3.64% for these 13 universities (table 1).

In short, for most doctoral students in education departments in Taiwan, English academic writing is a rarely taught competency in formal education. The other source for L2 scholars' EAWD may come from informal learning-workplace training and self-learning.

First, informal learning-workplace training: Learning is a social constructive process that happens not only in a school but also in a workplace setting (Dias et al, 1999), where newcomers undertake tasks and are supported by experienced practitioners (Blakeslee, 1997), and also in interactions with others in their social context (Vygotsky, 1978). Thus, developing the expertise of writing in professional communication must include classroom teaching, workplace learning (Schriver, 2012), and aspects of a socially situated activity (Blakeslee, 1997), in which workplace English academic writing training becomes a possible chance to enrich L2 scholars' EAWD.

In Taiwan, however, when scholars get their first faculty position, they are supposed to conduct research as well as teaching independently. Schools may provide some orientation activities to introduce college teaching, researching resources, colleagues, and school regulations, but English academic writing will usually not be on the list.

Although most universities have a mentor program for a junior scholar to get guidance from a senior scholar at the school, the learning opportunity varies from school to school. If there are senior scholars who are proficient in English academic writing and would like to help junior scholars, the junior scholars may get help from them. These opportunities, however, depend on the situation and cannot be inferred for the majority of L2 scholars.

Second, informal learning-self-learning: The most viable way for L2 scholars' EAWD is self-training. There are diverse ways to improve English academic writing, and scholars may choose the methods that fit their needs, for example, to attend English-writing-related courses on campus, workshops, as well as reading books about writing (Strunk, 2017; Swales & Feak, 2012). Making friends with native English speakers is an efficient way to improve English communication competency, but these approaches are conditional on location, time, budget, and opportunity. The diverse self-learning approaches are well worth further individual investigation, and this study, MOOCs for L2 scholars' EAWD, could act as one of the examples.

B. The weakness of conventional L2 scholars' EAWD

First, the lack of formal training: Although Taiwan's L2 scholars start learning English from elementary school and continue through university, they seldom use English in daily life. Thus, English speaking and writing become a huge challenge for them. Compare this to the faculty in Pakistan, India, and Bangladesh, who apply English as the main university teaching language; students use English to learn, communicate, and write in school life; and L2 scholars in these countries are supported by an English-rich environment that will better

support L2 scholars' EAWD. In Taiwan, students learn English through isolated subject teaching, and there is a lack of real English usage in daily life; thus, only a few students have confidence in English speaking and writing. This is similar to the situation in Turkey where L2 scholars also experience frustration in preparing graduate students for English academic publication (Buckingham, 2008). Most Taiwanese L2 scholars need to plan their own English learning if they want to improve their EAWD.

Second, the individual differences between the guidance of the advisors: Doctoral advisors' guidance varies greatly from one individual to the next. Most advisors focus on dissertation guidance in Mandarin; few advisors will guide doctoral students on English academic writing since the majority of students' English writing competence is so poor that teaching these students English academic writing would consume too much time. Thus, only a few Taiwanese L2 educational scholars have a chance to fully develop their EAWD through their advisor's guidance, and the majority of L2 scholars need to struggle in their EAWD by themselves when they aware they intend to participate in global academia.

Third, L2 scholars' EAWD becomes a self-supported activity: Due to the lack of English academic writing training during L2 scholars' formal educational process, EAWD becomes a self-supported activity where location, time, resources, budget, and chance will impact L2 scholars' EAWD opportunities. L2 scholars need a solution to surpass these limitations to facilitate their EAWD.

C. Feasibility and limitations

Since technologies facilitate learning (Siemens, Gašević, & Dawson, 2015), the latest online learning platform-MOOCs may present a solution, given the following advantages.

First, MOOCs offer abundant courses for English academic writing. L2 scholars' EAWD includes basic English academic writing skills, academic research ability, academic discipline research competency, and academic lifelong learning support. MOOCs have hundreds of these courses, learning resources, and learning partners to support L2 scholars' EAWD. For example, Coursera offers more than fifty writing-related courses, edX has more than thirty writing-related courses, and FutureLearn contains more than fifteen writing-related courses.

Second, L2 scholars can learn from MOOCs anytime and anywhere. A psychology professor records her busy daily schedule when she is revising a journal article: "she works at home and does the family laundry. She sets the buzzer on the dryer so that approximately every 45 minutes to an hour she is pulled away from the text to tend the laundry downstairs" (Prior & Shipka, 2003, p. 180). It is common for scholars to have a busy life in teaching, research, social service, and housework. Study time is constantly interrupted; the location limits L2 scholars' EAWD opportunities. MOOCs, however, provide a convenient learning approach free from time and space and can fit into most L2 scholars' working schedules.

Third, MOOCs provide a flexible learning approach. L2 scholars can jump straight to the part they need without working through all the material or waiting for a specific schedule,

because most MOOCs support nonlinear learning sequences. L2 scholars can learn intensively to facilitate their EAWD in a short time when they are motivated, or they can prolong their learning session if they are pondering and deliberating a difficult concept. MOOCs could be tailored to suit L2 scholars' individual needs by using self-paced MOOCs or by reorganizing the learning sequence.

Fourth, many learning partners participate in MOOCs. MOOCs facilitate learning at a scale (Joksimović et al., 2018) that offers the chance for L2 scholars to meet learning partners with similar interests to support each other. MOOCs have attracted an online learning population of millions worldwide; L2 scholars can meet learning partners anytime from diverse time zones.

Fifth, most courses in MOOCs are free. The majority of MOOCs are basically free, but some courses provide a certificate of learning for a small fee (compared to the fee of an on-campus course). If some MOOCs charge a fee for access, learners can find alternative free MOOCs since there are more than one hundred writing-related courses on MOOCs already. Moreover, L2 scholars want to improve their English academic writing competency more than getting certification; thus, they need not worry about any financial issues when they use MOOCs, compared to the high tutoring fees charged by English experts or native speakers. MOOCs provide a free opportunity to learn academic writing for learners worldwide who would not otherwise have had the chance to study these courses (Gilliland et al., 2018).

The limitations: Since writing development is a multi-dimensional process that relates to linguistic, psychological, sociocultural, compositional, rhetorical, curriculum, and age (Bazerman, 2013), this study is not a grand narrative that includes all the components to serve all L2 scholars' EAWD needs. This study focuses only on writing components in MOOCs to facilitate L2 scholars' EAWD. The various other approaches to facilitating L2 scholars' EAWD are well worth further studies. These include strengthening conventional English academic writing courses in doctoral programs, initiating L2 scholars' mentor projects, paying for private English academic writing tutoring and editing, learning through journal articles directly, and making good use of OpenCourseWare (OCW). These methods are all worthy of further investigation, but they fall beyond the scope of this article.

IV. Means of facilitating L2 scholars' EAWD by MOOCs

For nurturing L2 scholars' English academic writing and global academic participation competencies, this study has summarized the main aspects from the standards in Common Core, writing development theories, and Fulkerson's writing philosophy and cataloged them into five corresponding MOOC learning categories while providing corresponding MOOCs (see table 3 for a concise examples of MOOC learning categories).

L2 scholars, nevertheless, have various English levels and diverse English writing needs; this comprehensive English academic writing catalog should serve as a reference framework rather than a linear learning sequence. Since the learning of basic writing skills is

never-ending and L2 scholars' main concern is writing academic articles, the best learning strategy is to improve their article writing directly. When different L2 scholars meet different obstacles during their writing, the suggested categories will act as guidelines and open resources. Through nonlinear learning, L2 scholars can jump to the part they need: a course, a unit, or a concept. MOOCs with a virtual nature will serve L2 scholars' needs for flexible learning well.

A. Build English basic writing ability

MOOCs provide abundant courses to build L2 scholars' basic English writing ability: introduction to writing, grammar skills, and basic writing ability courses.

First, introduction to writing: If L2 scholars are inexperienced in English writing, starting an introduction to writing course will provide L2 scholars with an overview on English writing. Such courses include *A Beginner's Guide to Writing in English for University Study* from University of Reading in FutureLearn and *Getting Started with Essay Writing* from UC Irvine in Coursera.

Second, grammar, syntax, and style: Grammatical errors and syntax problems are common issues for novice writers and become essential study for L2 scholars. L2 scholars can learn *English Grammar and Style* from The University of Queensland in edX and *Perfect Tenses and Modals* from UC Irvine in Coursera.

Third, basic writing ability: Equipped with basic grammar and syntax skills, L2 scholars can expand their training in various MOOC writing courses. There are a vast number of courses with diverse curriculum designs, pedagogical styles, and content levels; L2 scholars can freely choose the one that best fits their needs, such as *English Composition* from Arizona State University in edX and *Writing in English at University* from Lund University in Coursera.

B. Develop English academic writing literacy

With basic English writing literacy, L2 scholars can focus on their core concern-English academic writing that includes the introduction to academic writing and academic writing publication.

First, introduction to academic writing: There are various writing types for diverse purposes; L2 scholars who intend to learn how to write for academic purposes have many courses to choose from, such as *Learning English for Academic Purposes: First Steps* from Open University in FutureLearn or *Write English Abstracts Easily* from National Taiwan Ocean University in ewant.

Second, academic writing skills: After having an overall picture of academic writing, L2 scholars can extend their learning through a sequence of English academic writing courses, such as *Academic and English Composition I, II* from Saylor at Saylor.org and *Academic and Business Writing* from UC Berkeley in edX.

Third, academic writing submission and publication: Submitting a paper for review and attempting publication are crucial steps to test and drill L2 scholars' English academic writing competency as well as to communicate with and spread knowledge to peers and the public. L2 scholars can get inspired through *Writing, Presenting and Submitting Scientific Papers in English* from Tsinghua University in edX and *Writing Your World: Finding Yourself in the Academic Space* from the University of Cape Town in Coursera.

C. Improve English presentation and communication skills

Since expressing oneself and communicating with other scholars are crucial parts of participating in international academic activities, L2 scholars should equip themselves with English presentation, communication, and discussion competencies.

First, English presentations: Presenting a paper at a conference or peer meeting is a viable way to improve L2 scholars' academic English ability and get inspiration. It is a challenging process to present a paper and answer questions in English. To equip oneself with these abilities in advance is the best policy in order to conduct a successful English presentation and grow one's academic reputation. The *Essentials for English Speeches and Presentations* from Peking University in Coursera and *Presentation Skills: Designing Presentation Slides* from National Research Tomsk State University in Coursera are relevant courses for L2 scholars.

Second, English communication: When L2 scholars engage in English academic writing for a long time, they will encounter many situations where they need to use English to interact with international academic peers, such as communicating with editors, reviewers, and conference participants. These are important opportunities to get motivated and inspired through professional dialog, if L2 scholars can communicate with peer scholars efficiently. L2 scholars can equip themselves with these communication competencies by using *Communication Theory: Bridging Academia and Practice* from Higher School of Economics-National Research University in Coursera and *Communication Skills for University Success* from The University of Sydney in Coursera.

Third, English academic discussion, listening, and e-mail: Other English communication-related abilities include English academic discussion, listening, and e-mail communication. These happen frequently in a productive international L2 scholar's life. L2 scholars can improve these abilities by taking *Academic Discussions in English* from UC Irvine in Coursera and *Writing Professional Email and Memos* from University of System of Georgia in Coursera.

D. Strengthen the foundation of English academic writing

To strengthen L2 scholars' English academic writing foundation, L2 scholars should deepen their understanding of research methods, cultivate their awareness of research topics, and establish a belief in research ethics.

First, research methods: Research methods act as a crucial part of English academic research and writing, and L2 scholars can deepen their research method competency through *Qualitative Research* from UC Davis in Coursera, *Quantitative Research* from UC Davis in Coursera, and *Introduction to Systematic Review and Meta-Analysis* from Johns Hopkins University in Coursera.

Second, research and scientific-study issues: To cultivate L2 scholars' academic awareness of research issues, scholars could explore the research and scientific-study-related issues, such as *Reproducible Research* from Johns Hopkins University in Coursera, *Writing in the Sciences* from Stanford University in Coursera, and *Discovering Science: Science Writing* from the University of Leeds in FutureLearn.

Third, research ethics: Research ethics or academic ethics is the bottom line for scholars since academic integrity is the minimum requirement for every scholar. Any mistake or violation might destroy a scholar's lifelong reputation. The L2 scholar ought to be familiar with these regulations and demonstrate them in their English academic writing. L2 scholars can benefit from *Academic Integrity: Values, Skills, Action* from the University of Auckland in FutureLearn and *People Studying People: Research Ethics in Society* from the University of Leicester in FutureLearn.

E. Support L2 scholars' EAWD lifelong

Since learning is a lifelong process (Delors, 1996), L2 scholars should develop their EAWD in a sustainable way to advance their academic careers lifelong. Several aspects can support L2 scholars' EAWD lifelong.

First, English academic writing efficiency: Increasing L2 scholars' writing efficiency will facilitate a productive academic career. Improving searching skills and getting connections to research resources are crucial competencies. L2 scholars can polish these capacities through *Learning Online: Searching and Researching* from the University of Leeds in FutureLearn and *Optimizing a Website for Research* from UC Davis in Coursera.

Second, English academic writing for grants: To support L2 scholars to engage in research and English academic writing in the long run, stable funding plays a key role. Courses that help scholars learn these skills include *Research Proposal: Initiating Research* from UC Davis in Coursera and *Grant Writing Bootcamp* from Dalhousie University in Canvas.net.

Third, a sustainable L2 scholar's academic career: L2 scholars should increase their academic literacy and build their ePortfolios in English. That will be an efficient channel for other international scholars to get a connection with L2 scholars for further academic interaction. These courses are useful for L2 scholars to advance an academic career: *Academic Literacy* from Moscow Institute of Physics and Technology in Coursera, *Build Your Professional ePortfolio in English* from Georgia Institute of Technology in Coursera, and *The Science of Success: What Researchers Know that You Should Know* from University of

Michigan in Coursera.

A concise sample of courses is listed in table 3 for readers to get a quick overall view of MOOCs for L2 scholars' EAWD.

Table 3

Sample Courses for L2 Scholars' EAWD Through MOOCs

Catalog	Sub-catalog	Course Title/Institution/MOOCs Platform
Build Basic English Writing Ability	Introduction to writing	* A Beginners' Guide to Writing in English for University Study/University of Reading/FutureLearn * Getting Started with Essay Writing/UC Irvine/Coursera * How to Write an Essay/UC Berkeley/ edX
	Grammar and style	* English Grammar and Style/The University of Queensland/edX * Perfect Tenses and Modals/UC Irvine/Coursera * Punctuation/UC Irvine/Coursera * Adjectives and Adjective Clauses/UC Irvine/Coursera
	Basic writing ability	* English Composition/Arizona State University/edX * Writing in English at University/Lund University/ Coursera * English Composition I/Duke University/Coursera * Just Reading and Writing in English/Tsinghua University/edX * ColWri2.1x: Principles of Written English/UC Berkeley/Coursera * An Intermediate Guide to Writing in English for University Student/University of Reading/FutureLearn * Advanced Writing/UC Irvine/Coursera
Develop English Academic Writing Competency	Academic writing introduction	* Learning English for Academic Purposes: First Steps/Open University/FutureLearn * Write English Abstract Easily/National Taiwan Ocean University/ewant * English for Academic Purposes: a Move-Me Project Course/NUI Galway, Open University, and universita per Stranieri di Siena/FutureLearn
	Academic writing skills	* Academic and English Composition I, II/Saylor.org/Saylor * English Composition: Research and Writing/Arizona State University/edX * Academic and Business Writing/UC Berkeley/edX
	Academic writing submission	* Writing Your World: Finding Yourself in the Academic Space/University of Cape Town/Coursera * Writing, Presenting and Submitting Scientific Papers in English/Tsinghua University/edX
Improve English Presentation & Communication Skill	English presentation	* Essentials for English Speeches and Presentations/ Peking University/Coursera * Presentation Skills: Designing Presentation Slides/National Research Tomsk State University/Coursera * Presentation Skills: Effective Presentation Delivery/National Research Tomsk State University/Coursera * Presentation Skills: Public Speaking Project/national Research Tomsk State University/Coursera * Speaking to Inform: Discussing Complex Ideas with Clear Explanation and Dynamic Slides/University of Washington/Coursera
	English communication	* Communication Theory: Bridging Academia and Practice/Higher School of Economics-National Research University/Coursera * Communication Skills for University Success/The University of Sydney/Coursera * Scholarly Communication/Moscow Institute of Physics and Technology/Coursera
	English academic discussion, listening, and e-mail	* Academic Discussions in English/UC Irvine/Coursera * Academic Listening and Note-Taking/UC Irvine/Coursera * Writing Professional Email and Memos (Project-Centered Course)/University of System of Georgia/Coursera * Write Professional Emails in English/Georgia Institute of Technology/Coursera

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Strengthen English Academic Writing Foundation	Research method	<ul style="list-style-type: none"> * Qualitative Research/UC Davis/Coursera * Quantitative Research/UC Davis/Coursera * Introduction to Systematic Review and Meta-Analysis/Johns Hopkins University/Coursera * Descriptive Research Method in Psychology/Georgia Institute of Technology/Coursera * Interview Research and Preparation/University of Maryland, College Park/Coursera
	Research and science study issues	<ul style="list-style-type: none"> * Reproducible Research/Johns Hopkins University/Coursera * Writing in the Sciences/Stanford University/Coursera * Discovering Science: Science Writing/University of Leeds/FutureLearn * Technical Writing/Moscow Institute of Physics and Technology/Coursera * User Research and Design/University of Minnesota/Coursera * User Experience: Research & Prototyping/UC San Diego/Coursera
	Research ethics	<ul style="list-style-type: none"> * Academic Integrity: Values, Skills, Action/University of Auckland/FutureLearn * People Studying People: Research Ethics in Society/University of Leicester/FutureLearn
Support L2 Scholars' EAWD Lifelong	English academic writing efficiency	<ul style="list-style-type: none"> * Learning Online: Searching and Researching/University of Leeds/FutureLearn * Optimizing a Website for Research/UC Davis/Coursera * Search Engine Optimization Fundamentals/UC Davis/Coursera
	English academic writing for grand	<ul style="list-style-type: none"> * Research Proposal: Initiating Research/UC Davis/Coursera * Grant Writing Bootcamp/Dalhousie University/Canvas.net
	A sustainable L2 scholar's academic career	<ul style="list-style-type: none"> * Build Your Professional ePortfolio in English/Georgia Institute of Technology/Coursera * Academic Literacy/Moscow Institute of Physics and Technology/Coursera * The Science of Success: What Researchers Know that You Should Know/University of Michigan/Coursera

Note. Data were collected from January 2018 to December 2018.

V. Discussion and evaluation

The advantages and limitations of facilitating L2 scholars' EAWD with MOOCs were critically discussed, and the remedies were deliberated on.

A. Advantages

First, L2 scholars have abundant courses to choose from. Compared to only four English academic writing courses in Taiwan's thirteen programs for doctoral students in educational departments from 2015 to 2017, there are more than one hundred L2 scholars' EAWD-related courses in various MOOC platforms. L2 scholars can learn from basic, to intermediate, to advanced English academic writing courses on MOOCs. These abundant courses have provided a convenient choice for suiting L2 scholars' levels, needs, and preferences.

Second, L2 scholars can learn for free or low cost without spatial-temporal limits. L2 scholars can access most MOOC courses for free, although some courses may provide an option for certification for a small fee, such as 79 USD for Stanford's *Writing in the Sciences* (suggested commitment: 8 weeks of study, 3-5 hours/week workload) from Coursera. It is much cheaper than a traditional campus course. Suppose Stanford's *Writing in the Sciences*

course is only a one-unit (one hour per week for 10 weeks) course. Stanford's undergraduate student needs 180 units for a bachelor's degree (Stanford University School of Engineer, 2017); four-year tuition fee is $44,757 \times 4 = 179,028$ (Stanford University, n.d.); therefore, the average tuition fee for one unit is 994.6 USD. The tuition fee on for an on-campus course is about 12.59 times higher than that of a MOOC in this case.

Moreover, MOOCs provide learning without spatial-temporal limitations which provides L2 scholars a learning opportunity without boundaries. L2 scholars work at various locations where they may lack English academic writing resources. L2 scholars also need to teach and perform duties in school which limits L2 scholars' abilities to attend courses or workshops to improve their writing abilities. MOOCs become the most convenient space for L2 scholars to engage in EAWD without being concerned with these problems.

Third, L2 scholars can learn from MOOCs flexibly. L2 scholars have various English academic writing levels, learning approaches, learning conditions, and needs. MOOCs build courses in a virtual space and store them on the Cloud where contents are digitalized with flexible usage. If an L2 scholar prefers doing writing practice to watching lecture video, she can follow her learning preference and need not worry about a linear course learning sequence as is the case with conventional classroom learning. If an L2 scholar only wants to learn some units in a MOOC, he can jump to the unit he likes and need not waiting for the class regular schedule to reach the unit he wants. L2 scholars can start their EAWD anytime and anywhere since MOOCs are ready to serve all learners with flexible pedagogical approaches.

Fourth, L2 scholars can learn with less stress. People have an authoritative image of university faculty, wise and independent. Some L2 scholars may feel embarrassed to ask their colleagues or other experts simple questions of English grammar, vocabulary, usage, and writing style; they may feel uncomfortable to sit with other younger students to learn how to write English academic papers. MOOC learning is veiled by the virtual space and will not reveal one's status or age, and that will reduce the potential anxiety for an L2 scholar to learn some basic English writing with others who are just beginning.

B. Limitations

Although MOOC learning has some advantages, some limitations should be examined for a balanced perspective.

First, a lack of L2 Scholars' EAWD introductory courses and guidelines. MOOCs are a new learning approach for L2 scholars, and some introductory courses are needed to show L2 scholars how to learn in MOOCs effectively. Moreover, MOOCs offer thousands of courses on different platforms, but they lack guidelines for L2 scholars to know what kind of courses can support their EAWD and where to find them. That hinders L2 scholars' learning.

Second, a lack of individual support for L2 scholars' EAWD. L2 scholars' writing has its specific academic issues, writing styles, and genres. It is not easy to get effective feedback from general writing guidelines. Individual support to facilitate L2 scholars' EAWD is

important, but it is difficult to get this individual service, such as paper editing, because it will not only consume a lot of the instructor's time and energy but also requires qualified experts to perform this service. Due to the low cost or free nature of MOOCs, they tend to lack this kind of individual support.

Third, a lack of supporting measures. Even when supported by MOOCs, L2 scholars will either face the lack of English academic writing training in conventional graduate school courses or encounter a lonely learning experience in MOOCs. L2 scholars need to learn alone in MOOCs since there are few supporting measures for MOOCs' free or low-cost learners. Learning in MOOCs becomes a lonely journey, although active learners get the most benefits. L2 scholars may not become active learners easily. There may be concern that L2 scholars' dropout rate might be as high as the regular MOOCs learners which can be very high (,) and then MOOCs cannot facilitate L2 scholars' EAWD effectively.

C. Remedies

Some remedies are suggested below to address these concerns.

First, create an L2 scholars' EAWD introductory MOOC. An introductory MOOC would be an efficient way to initiate L2 scholars into English academic writing, since L2 scholars can get an overview of efficient MOOC learning strategies, EAWD related courses in MOOCs, and the learning sequence and progress of EAWD courses. The introductory MOOC will also serve as a learning guideline for L2 scholars. Before this introductory MOOC is created, this paper may serve as a temporary guideline for L2 scholars to explore EAWD through MOOCs by themselves since the paper provides an overview of ideas and practices on the issue.

Second, build a mutual benefit MOOC. To support L2 scholars' individual service, creating an L2 English Editing MOOC could be an example. Editing English academic papers is a very personal job, and L2 scholars usually co-author with a native-English-speaking scholar or pay to have their paper drafts edited. MOOCs could possibly provide an opportunity for a mutually beneficial arrangement, where L2 scholars can have their English papers edited by native-English-speaking researchers or English writing experts who are engaging in research on L2 learners' writing and would like to provide free editing services to L2 scholars to get data about L2 scholars' learning and writing attitudes and behavior. That would be a mutually beneficial strategy for L2 scholars and researchers.

Before this mutually beneficial MOOC is created, the Junior Scholars Mentor Program at the Research Institute for the Humanities and Social Sciences at the Ministry of Science and Technology is still a good conventional way for L2 scholars to get help from an outstanding senior scholar. Moreover, University-based mentor programs are also available for L2 scholars in most universities. These mentor programs, however, usually only serve younger L2 scholars, such as associate and assistant professors but not L2 professors who seem to have outstanding achievements in their fields and need no further assistance.

Third, form an L2 scholars' EAWD learning community to address the problem of L2 scholars' lonely learning journey in MOOCs and lack of supporting measures, such as sharing ideas, asking questions, and emotional support from peers. These shortcomings may reduce L2 scholars' learning motivation and constrain their learning activities. Through social networking connections (Rowse & Walsh, 2011) and online learning communities (Gallagher, 2018), learners tend to work collaboratively; thus, forming a learning community for L2 scholars to get emotional support, ask their EAWD questions, and share ideas with each other would provide L2 scholars a sustainable platform for EAWD through MOOCs. With this supporting community and writing-related MOOCs, L2 scholars may engage in EAWD online regularly, build a learning habit gradually, and eventually become active lifelong learners of English academic writing on MOOCs.

VI. Implications

The researcher infers some implications for educational researchers, L2 scholars, and policymakers to promote L2 scholars' EAWD.

A. MOOCs can be an efficient way to improve L2 scholars'

EAWD

To advance L2 scholars' careers and expand their academic influence, L2 scholars need to participate in international academia where English academic writing is the most common way to share scholars' ideas and practices. Traditional formal doctoral programs in Taiwan's department of education, however, have few supporting resources to improve their future scholars' English academic writing literacy. Besides L2 scholars' struggling to improve using conventional EAWD approaches, MOOCs can act as a convenient, efficient, and innovative way to empower L2 scholars, because MOOCs offer abundant courses, build courses in virtual space, and serve learners through the Cloud where learners can learn anytime and anywhere with flexible styles and non-linear learning sequences. These characteristics of MOOCs provide L2 scholars an efficient means to develop their English academic writing knowledge, skills, and attitude.

B. L2 scholars should notice and take advantages of MOOCs

Although there are thousands of courses in MOOCs including more than one hundred English academic writing related courses, many L2 scholars might neglect these precious resources and effective methods to improve their EAWD.

Writing development is a long-term process; those who succeed in writing start earlier (Bazerman, 2013). L2 scholars should take advantage of MOOCs as soon as possible to improve their English academic writing literacy. Through this approach, L2 scholars can take advantage of MOOCs for EAWD without the concerns of time, location, finances, and

learning style. Especially, when L2 scholars are lacking relevant resources at hand, MOOCs are ready to serve every L2 scholar without condition.

C. Policymakers ought to provide supporting measures

MOOCs may offer a high potential for facilitating L2 scholars' EAWD, but MOOCs are not in perfect condition yet—the lack of an introductory MOOC, individual service, and L2 scholars' lifelong support in EAWD means L2 scholars' exploration of MOOCs will be a lonely journey. This will prevent more L2 scholars from joining the learning lists of MOOCs and may keep most L2 scholars from having a long-term engagement.

Educational policymakers should reward schools or educators that create an L2 scholars' introductory EAWD MOOC as a gateway for all L2 scholars to learn. Universities can invite English writing experts or researchers to create a mutual benefit L2 English Editing MOOC where L2 scholars can get help on editing their paper drafts and English writing experts can collect research data. This would be a win-win policy.

D. L2 Scholars need to form a learning community to facilitate

EAWD lifelong

Since L2 scholars' EAWD is life long, creating sustainable supporting mechanisms for L2 scholars is a long-term policy. The best way would be to form an online learning community to support L2 scholars' EAWD because an online learning community would support a sustainable way to facilitate L2 scholars' EAWD efficiently and continuously. Thus, educational administrators should finance or reward universities or experts to create an L2 scholars' online EAWD learning community or a website that fulfills these functions.

Through an L2 scholars' online learning community, L2 scholars could get professional support and emotional inspiration from each other. L2 scholars could engage in EAWD frequently, English academic writing would gradually become L2 scholars' habit, their lifelong engagement would be secured, L2 scholars would become active learners, and active L2 scholars would naturally advance their academic careers through EAWD in MOOCs.

The global population of L2 scholar is huge and diverse. Some South Asian countries, such as India, Malaysia, and Bangladesh, adopt English as their official teaching and learning language in higher education and build better English academic writing competency for their L2 scholars. To improve Taiwanese L2 scholar's EAWD through other means, a comparison of Taiwanese and South Asian countries' (such as India, Malaysia, or Bangladesh) L2 scholars' EAWD would be a significant issue for a further study. Moreover, investigating efficient methods of curriculum design and pedagogical style in a MOOC for facilitating L2 scholars' EAWD is another important topic for further study.

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透過大規模開放式線上課程提昇學習外語 學者之英文學術寫作發展

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中文摘要

本文探究透過磨課師促進臺灣學習外語之教育學者的英文學術寫作之可行性與途徑。經由文獻與課程分析研究發現台灣學習外語之教育學者英文學術寫作發展在傳統學校教育中有其限制，磨課師作為解決途徑有其可行性。研究提出幾項具體途徑：建立英文基礎寫作能力、發展英文學術寫作素養、增進英文發表與溝通技巧、強化英文學術寫作基礎、支持學習外語學者英文學術寫作終身發展。評估所提途徑後推論數項啟示給教育研究者、學習外英學者及決策者：磨課師可成為促進學習外語學者之英文學術寫作發展的有效途徑，學習外語學者應察覺並善用磨課師優勢，決策者應提供支持措施，學習外語學者需形成學習社群以促進英文學術寫作終身發展。

關鍵字：磨課師、學習外語的學者、英文學術寫作發展、學習社群、開放性教育資源

